

What is claimed is:

1. A system for measuring erythema, comprising:
  2. a light guide having first and second opposite ends;
  3. b. a waveform generator for generating at least first and second signals, and  
4. modulating said first and second signals at first and second predetermined  
5. frequencies, respectively;
  6. c. a light source electrically interconnected to said waveform generator for  
transmitting light to a surface at said first and second frequencies;
  - d. a photo transistor mounted in said light guide at said second end for  
receiving reflected light and generating a second signal;
  - e. a calculator circuit for determining a level of erythema based on said  
second signal; and
  - f. a display unit electrically interconnected to said calculator circuit for  
displaying said level of erythema.

1           2. An erythema measuring device, comprising:

2           a. a waveform generator for generating first and second waveforms;

3           b. a light guide interconnected to said waveform generator for guiding and

4           transmitting light to a surface at first and second frequencies

5           corresponding to said first and second waveforms, respectively;

6           c. a photo transistor connected to said light guide for receiving light reflected

7           from said surface;

8           d. an electronic highpass filter for filtering said reflected light received by

9           said photo transistor;

10          e. an analog to digital converter electrically coupled to said filter; and

11          f. a display unit electrically coupled to said analog to digital converter.

12         3. A method for measuring erythema present on a surface, comprising the steps of:

13          a. transmitting first and second wavelengths of light towards said surface;

14          b. receiving said first and second wavelengths of light after they have been

15          reflected off of said surface;

16          c. electronically filtering said first and second wavelengths of reflected light;

17          d. calculating a level of erythema based on said filtered first and second

18          wavelengths of light; and

19          e. displaying said level of erythema.

1           4. An erythema measuring device, comprising:

2           a. means for generating first and second waveforms;

3           b. means for transmitting light to a surface at first and second frequencies

4           corresponding to said first and second waveforms, respectively;

5           c. means for receiving light reflected from said surface;

6           d. means for filtering said reflected light received by said light receiving

7           means;

8           e. an analog to digital converter electrically coupled to said filtering means;

9           and

10          f. a display unit electrically coupled to said analog to digital converter.

5. An erythema measuring device, comprising:

4           a. means for generating first and second waveforms and modulating said first

5           and second waveforms at first and second predetermined frequencies,

6           respectively;

7           b. means for transmitting light to a surface at said first and second

8           frequencies ;

9           c. means for receiving light reflected from said surface;

10          d. means for calculating a level of erythema based on said light reflected

11          from said surface; and

12          e. a display unit for displaying said level of erythema.

1           6. A method for measuring erythema present on a surface, comprising the steps of:

2           a. generating first and second wavelengths and modulating them at first and

3           second frequencies, respectively;

4           b. transmitting said first and second wavelengths of light towards said

5           surface;

6           c. receiving said first and second wavelengths of light after they have been

7           reflected off of said surface;

         d. calculating a level of erythema based on said reflected first and second

         wavelengths of light; and

         e. displaying said level of erythema.

2021 PCT Application